



CREATING A MARKETING STRATEGY WITH PREFERENCE FOR ORGANIC PRODUCTION AS A FACTOR OF INFLUENCE ON THE BIRTH RATE AND LIFE EXPECTANCY OF THE POPULATION

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Abstract

The specifics of organic production suggest use of safe and healthy food, ecosystems protection, sustainable use of natural resources, improvement of social status and development in rural and urban regions. In this way, in the future can be expected improvement of the health and increase of the life expectancy and birth rate of the population in Macedonia and the European Union.

The data show that the area under organic production in Macedonia has increased over 130 times in last ten years, from 192 hectares in 2004 to 26.431 hectares in 2012. In the European Union, the area was duplicated, from 6.353.105 hectares in 2004 to 11.151.991 hectares in 2012. The life expectancy in the European Union, as well in Macedonia is increasing. In the European Union, the average life was 73 years in 1980 and reached 80 in 2012. In Macedonia, it was 67 years in 1980 and 75 years in 2012. The birth rate in the European Union was 13.9 or almost 14 live births per 1.000 inhabitants in 1980 and 10.4 in 2012. In Macedonia the birth rate was 21.6 in 1980 and 10.9 in 2012, which means double reduction.

Predictions for the future are showing increase of the area under organic production and the life expectancy, on one hand, but also decreasing in the birth rate, on the other hand. In the paper, will be presented the development trends of organic production, life expectancy and birth rate in Macedonia and the European Union and their correlative dependencies using tabular and graphical displays.

Key words: *Organic production, Life expectancy, Birth rate, Correlative analysis, Macedonia, European Union.*

1. Introduction

Organic food means food produced according to international standards, using technology that completely fit the regulations for the protection of nature i.e. without

using or limited use of artificial fertilizers. These farming - organic crops grow on healthy - uncontaminated land or land previously cleaned of all toxins. Because of the positive impact of this kind of production on individuals and society in general, market of organic products seen continuous growth.

Confirmation for the positive contribution of organic production is continuous increase of life expectancy of the population. This is logical because organically produced food improves the health of the population, while the organic method of production means a cleaner environment, which consequently leads to increase of their life.

2. Materials and Methods

For the purpose of this paper, the data has been taken from the Ministry of Agriculture, Forestry and Water Economy of Macedonia, Organic Europe, European section of the Organic World website, Research Institute of Organic Agriculture (FiBL) and the Agricultural Market Information Company (AMI).

In this paper are put out some theoretical aspect about the consumers preference for organic production. Also, the movement of organic production (land under organic production, organic producers and organic market), birth rate and life expectancy is shown tabular and graphic. Based on this data, we performed trends analysis and conclusions have been drawn about the connection and the impact of organic production on the birth rate and life expectancy of the population in Macedonia and the European Union.

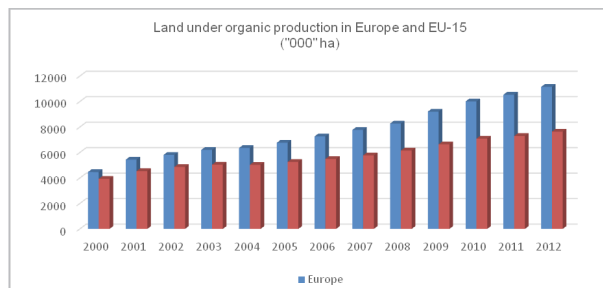
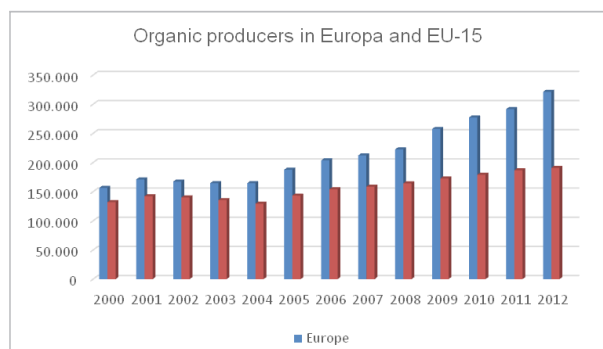
3. Results and Discussion

3.1 Organic production in Europe and Macedonia

Organic production land and organic producers number in EU is in constant increase (Tables 1 and 2 and Figures 1 and 2).

Table 1. Organic land in Europe and EU-15 [5]

Year	Europe		EU 15	
	Land (ha)	%	Land (ha)	%
2000	4.463.877	1.0	3.931.074	3.0
2001	5.434.879	1.1	4.539.102	3.4
2002	5.805.673	1.2	4.861.579	4.2
2003	6.205.498	1.2	5.038.830	3.8
2004	6.353.105	1.3	5.033.091	3.8
2005	6.762.677	1.4	5.257.894	4.0
2006	7.265.087	1.5	5.492.964	4.2
2007	7.769.964	1.6	5.775.791	4.4
2008	8.269.433	1.7	6.154.359	4.7
2009	9.208.437	1.9	6.639.256	5.1
2010	10.012.300	2.1	7.088.479	5.5
2011	10.535.758	2.2	7.294.961	5.7
2012	11.151.991	2.3	7.638.900	5.9


Figure 1. Organic land in Europe and EU - 15

Figure 2. Organic producers in Europe and EU - 15

Consumer interest in organic products remains high in most major markets, even though organic products have to compete more and more with other sustainability and regional labels. In spite of the difficult economic climate in some European countries, in which market shares are still low, consumer concern about the way food is produced is increasing.

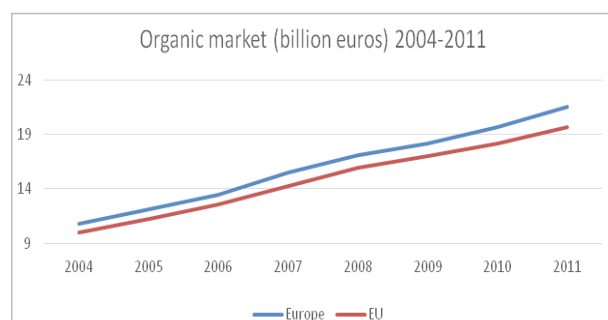
Table 2. Organic producers in Europe and EU-15 [5]

Year	Europe	EU-15
2000	156.468	132.139
2001	171.100	142.162
2002	167.407	140.066
2003	164.658	135.610
2004	164.654	129.313
2005	187.780	143.298
2006	203.727	154.308
2007	212.201	158.472
2008	222.616	164.263
2009	257.677	172.692
2010	277.423	179.082
2011	291.587	186.720
2012	321.323	190.899

The organic market continued to grow in the European Union, even though some countries were still affected by the economic crisis, leading to stagnation or even decline. Data compiled by the Research Institute of Organic Agriculture (FiBL) and the Agricultural Market Information Company (AMI) show that the organic market in Europe has increased (Table 3, Figure 3).

Table 3. Organic market in Europe and EU (billion euros) [6]

Year	Europe	EU
2004	10.8	10.0
2005	12.1	11.2
2006	13.5	12.6
2007	15.2	14.3
2008	17.1	15.9
2009	18.2	17.0
2010	19.7	18.2
2011	21.5	19.7


Figure 3. Organic market in Europe and EU

Organic production in Macedonia is still on low level, although the data show a gradual increase in the area under organic production (Table 4, Figures 4 and 5). From total land under conventional agricultural production in Macedonia, organic production has taken 2.5% in the arable land. Organic production in Macedonia have big natural potential, because of the traditional extensive farming, mainly in mountainous areas with really suitable ecological conditions for sustainable development of organic farming.

Table 4. Organic area and producers in Macedonia 2005-2013 [4]

Year	Macedonia	
	Land (ha)	Producers
2005	266	50
2006	509	102
2007	714	150
2008	1.029	226
2009	1.373	321
2010	5.228	562
2011	6.581	780
2012	4.663	576
2013	3.168	400

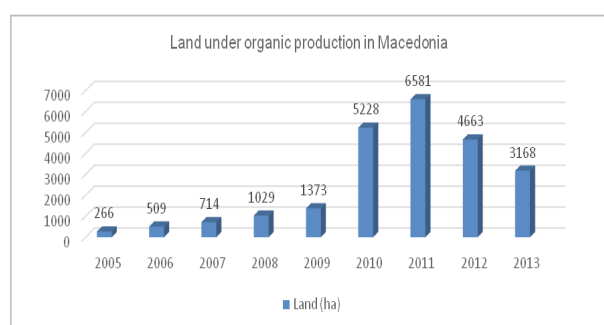


Figure 4. Organic land area in Macedonia 2005 - 2013

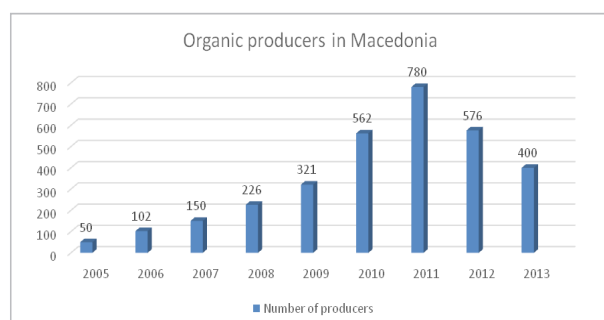


Figure 5. Organic producers in Macedonia 2005 - 2013

A growing majority of consumers in Macedonia know what organic agriculture is and know the value of organic food, but in this area there is much more that can be done. Creating a domestic supply and demand of organic products requires constant informing and raising the awareness of consumers through appropriate campaigns, promotions and other informational tools.

Certain entities, mainly companies, have established individual export relations with EU countries, but still there isn't organized export of organic products. This strategic objective will be realized after the accomplishment of the previous goal i.e. after the increase of the supply and demand in the domestic market and increase of the organic products quantity in the country. Also, there is a need for serious action for promotion of Macedonian organic food in international trade fairs and similar events.

Organic production involves health, environmental and social aspect. Overall, Macedonian consumers are familiar with the impact of organic food on their health and they recognize the organic food only through this perspective, while they are unaware about other aspects. This creates a situation in which only part of the actual sales arguments are taken into consideration by the suppliers, and certainly by consumers, which drastically reduces the population that is prepared just for that argument to buy organic products and allocate more funds for their purchase.

Sales of organic products directly from the farm or retail markets, although it is an important channel for sales in all developed markets in Macedonia does not exist. Shopping habits of organic products, according to the current market structure in Macedonia suggest that the shopping is done only from supermarkets.

Macedonia does not have sufficient quantity and variety of products to be able to undertake actual marketing activities. Since there is no continuous supply of sufficient quantities of local organic products, it is difficult to establish cooperation with attractive shops. Also, most processing companies do not want to engage their plants to process small quantities of fresh organic products. Fresh fruits and vegetables are often sold at the same price as conventional. Producers of organic products from Macedonia should create strong producer associations in order to be able to produce sufficient quantities for export.

3.2 Reasons for organic production preference

As a concept, organic production for some producers and consumers indicates values that differ from those of traditional manufacturing. Organic products are demanded by consumers for several reasons: the product itself, the way of their production, their lower impact on the environment, more humanised attitude towards animals and shorter and closer relationship with the

producer but the demand is primarily determined by the concern for personal health and the environment [3]. Along with directing consumers towards organic products, producers also adjust their marketing strategy with significant changes in its offer, including the way of their distribution and sale.

Organic production has several advantages that can be grouped into three categories:

- Environment

Organic production sets high standards of sustainability (based on local, renewable resources) that is different from conventional production. This production takes care about the environment through land water protection from pesticides and in some degree from nitrate, animal optimal health and welfare, biodiversity of farmland and surrounding areas, as well as positive impact on rural and social development.

- Growth of ethical consumption

Organic production builds integrated ethics that includes natural, economic and social aspects of agricultural production. Consumers do not want to feel used when they buy organic products which indicates that the inspection and labeling are important prerequisites for gaining and maintaining their trust. Due to the numerous financial and health threats, threats related with food and environment, has appear significant distrust toward governments, politicians, big business and brand. Ethical consumption appeared in response to this, reflecting the desire of consumers to take control of their lives. In these conditions, prices are often less important to consumers than the way the product is produced, its quality and impact on the health and way of living [2].

-Emphasis on health and healthy lifestyles

Because of the growing awareness of the ability and the responsibility of individuals to affect their health, increasing numbers of evidence for a causal link between diet and diseases and the transition from social welfare to individual welfare, more attention is paid to the style of living management. In support of this trend is the increasing number of diseases caused by diet, stressful life, alcohol, cigarettes and drugs addiction, pollution and insufficient physical activity. Organic products are healthy because they are not contaminated with pesticides [1].

3.3 Birth rate and life expectancy in Macedonia and the European Union and the connection with the organic production

Changes in birth rate and life expectancy in Macedonia and the European Union have been leading to demographic aging of the population in the last three decades.

The birth rate in these countries shows a trend of continuous decline (Table 5, Figure 6), despite the gradual increase in life expectancy of the population (Table 6, Figure 7). The movements of these variables, as well as the predictions for the future are shown tabular and graphic.

Table 5. Birth rate in Macedonia and the EU [7]

Year	Birth rate in Macedonia	Birth rate in EU
1980	21.6	13.9
1981	21.3	13.5
1982	21.0	13.4
1983	20.7	13.1
1984	20.3	13.0
1985	19.9	12.8
1986	19.4	12.7
1987	19.0	12.8
1988	18.6	12.7
1989	18.3	12.4
1990	17.9	12.4
1991	17.4	12.0
1992	17.0	11.7
1993	16.5	11.4
1994	15.9	11.1
1995	15.3	10.8
1996	14.7	10.8
1997	14.1	10.7
1998	13.5	10.5
1999	13.0	10.5
2000	12.6	10.6
2001	12.3	10.4
2002	12.0	10.3
2003	11.8	10.3
2004	11.6	10.5
2005	11.4	10.4
2006	11.3	10.6
2007	11.2	10.6
2008	11.1	10.9
2009	11.0	10.7
2010	10.9	10.7
2011	10.9	10.4
Prediction		
2014	8.2	9.4
2015	7.7	9.3
2016	7.4	9.2
2017	7.0	9.1
2018	6.6	9.0

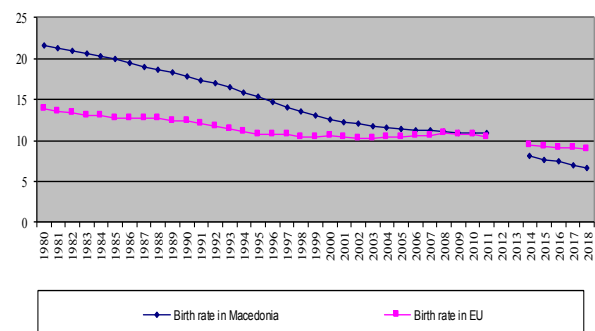
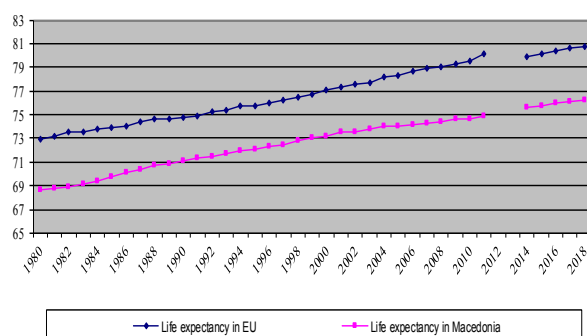


Figure 6. Birth rate in Macedonia and the EU

Table 6. Life expectancy in Macedonia and the EU [7]

Year	Life expectancy in Macedonia (years)	Life expectancy in EU (years)
1980	68.7	72.9
1981	68.8	73.2
1982	68.9	73.5
1983	69.2	73.5
1984	69.4	73.8
1985	69.8	73.9
1986	70.1	74.1
1987	70.4	74.4
1988	70.7	74.6
1989	70.9	74.7
1990	71.1	74.8
1991	71.3	74.9
1992	71.5	75.3
1993	71.7	75.4
1994	71.9	75.7
1995	72.1	75.8
1996	72.3	76.0
1997	72.5	76.3
1998	72.8	76.5
1999	73.0	76.7
2000	73.2	77.1
2001	73.5	77.4
2002	73.6	77.6
2003	73.8	77.7
2004	74.0	78.2
2005	74.1	78.3
2006	74.2	78.7
2007	74.3	78.9
2008	74.4	79.1
2009	74.6	79.3
2010	74.7	79.6
2011	74.9	80.2
Prediction		
2014	75.6	79.9
2015	75.8	80.2
2016	76.0	80.4
2017	76.1	80.6
2018	76.3	80.8

**Figure 7. Life expectancy in Macedonia and the EU**

Tabular and graphical display show a significant decline in the birth rate in these countries in the last three decades. What we can first notice from the figure above is the trend of rapidly declining birth rate in the beginning of the analyzed period, than its slower decline in the second decade and stagnation or minimal decline

in recent years. Despite this common trend, the percentage of change is different for each country. In Macedonia, the percentage of decline in the birth rate is 49.5%, while in the EU is 25.2 %. Macedonia is in better position with 10.9 live births per 1,000 inhabitants, while EU has 10.4 live births per 1,000 inhabitants, though the smaller percentage of change in the analyzed period.

In 1980 Macedonia has 68.7 years and EU has 72.9 years life expectancy. This difference in length of life expectancy is relatively the same in all analyzed period (4 years in 1980, 5 years in 2011). The percentage of change in this analyzed period is 9% in Macedonia 10% in the EU. Despite the same percentage of change, Macedonia is still far from the level of the EU countries.

Increased life expectancy is a result of numerous factors, including better nutrition i.e. increase of the organic food consumption. We can notice that the trend of increased life expectancy follows the trend of increased organic production (land under organic production, organic producers, and organic market). This means that the consumers are more and more preferring organic food.

4. Conclusions

- The data show that the area under organic production in Macedonia has increased over 130 times in last ten years, from 192 hectares in 2004 to 26.431 hectares in 2012. In the European Union, the area was duplicated, from 6.353.105 hectares in 2004 to 11.151.991 hectares in 2012.

- The life expectancy in the European Union, as well in Macedonia is increasing. In the European Union, the average life was 73 years in 1980 and reached 80 in 2012. In Macedonia, it was 67 years in 1980 and 75 years in 2012.

- The birth rate in the European Union was 13.9 or almost 14 live birth per 1.000 inhabitants in 1980 and 10.4 in 2012. In Macedonia the birth rate was 21.6 in 1980 and 10.9 in 2012, which means double reduction.

- Predictions for the future are showing increase of the area under organic production and the life expectancy, on one hand, but also decreasing in the birth rate, on the other hand.

- The preference of organic production means cleaner environment, healthier life and better place for living, which among other things, contributes to longer life expectancy.

- The trend of increased life expectancy follows the trend of increased organic production (land under organic production, organic producers, and organic market). This means that the consumers are more and more preferring organic food.

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